I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Inventor:

Karl W. Koch, III

Resident Address:

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Post Office Address:

same

Citizenship:

United States

DATE: 4 November 2003

Carl W. Koch, III

Full Name of Inventor:

James A. West

Resident Address:
Post Office Address:

1 East Chatfield Place, Painted Post, NY 14870

same

Citizenship:

Canada

DATE: ((/1**%**/03

James A. West

As a below named inventor, I declare that:

My residence, Post Office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled ACTIVE PHOTONIC BAND-GAP FIBER.

The specification of which (check only one item below): is attached hereto was filed as United States Application Serial No. on (if applicable) and was amended on , and was was filed as PCT international application number , on amended under PCT Article 19 on (if applicable). I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56. I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate or 365(a) of any PCT international application which designated at least one country other than the Unites States, listed below and have also identified below any foreign application for patent or inventor's certificate, on the same subject matter, having a filing date before that of the application on which priority is claimed: Filing Date: **Application No.:** Country: NONE I hereby claim the benefit under Title 35 United States Code § 119(e) and § 120 of any United States application(s) or 365(c) of any PCT international application designating the United States listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35 United States Code § 112, I acknowledge the duty to disclose material information as defined in Title 37 Code of Federal Regulations, § 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application: **Provisional No.:** Filed: Status: Filed: Status: **Application No.: PCT Application No:** Filed: Status: **NONE**

POWER OF ATTORNEY BY ASSIGNEE

CORNING INCORPORATED, the assignee of the full and exclusive right, title and interest in and to the accompanying application for United States Letters Patent entitled ACTIVE PHOTONIC BAND-GAP FIBER and executed by Karl W. Koch, III, and James A. West, on Movember 19, 2013 and Movember 19, 2013, respectively, appoints the practitioners associated with the Customer Number provided below (i.e., the practitioners associated with the Intellectual Property Department, Corning Incorporated) to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected therewith. Please direct all correspondence to Juliana Agon at the address associated with that Customer Number.

Customer Number: 22928

CORNING INCORPORATED

Date: 11/19/03

Mark W. Lauroeseh Assistant Secretary

ASSIGNMENT

Attorney Docket No.: SP03-162

FOR VALUE RECEIVED, I, as a below named inventor, hereby sell, assign and transfer unto Corning Incorporated, a corporation organized and existing under the laws of the State of New York, having its principal place of business at Corning, New York, (hereinafter CORNING), as assignee, and unto its successors, assigns and legal representatives, the entire right, title and interest, for all countries, in and to certain inventions relating to a ACTIVE PHOTONIC BAND-GAP FIBER, such inventions being generally described in an application for Letters Patent of the United States executed on

DATE November 19, 2003 DATE November 19, 2003

and in any future patent applications claiming the benefit of the filing date of that application, and all the rights and privileges under any and all Letters Patents that may be granted therefore.

I request that any and all patents for said inventions be issued to CORNING, its successors, assigns and legal representatives, or to such nominees as CORNING may designate.

I agree that, when requested, I will, without charge to CORNING and at CORNING's expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing and maintaining patents for said inventions in any and all countries and for vesting title thereto in CORNING, its successors, assigns and legal representatives or nominees.

I authorize and empower CORNING, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for said Convention or entered as a supplement to, and to invoke and claim such right of priority without further written or oral authorization.

I hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of CORNING, or its successors, assigns and legal representatives or nominees to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it or entered as a supplement to it.

I covenant with CORNING, its successors, assigns and legal representatives or nominees, that the rights and property herein conveyed are free and clear of any encumbrance, and that I have full right to convey the same as herein expressed.

(U.S. Regular Application)

County of Steuben)

Signed at Corning, NY, this Karl W. Koch, III

James A. West State of New York) : ss. County of Steuben) On the 10 day of November 2003, before me personally came Karl W. Koch, III known to be the person described in and who executed the foregoing instrument, and acknowledged that they executed the same. TERRI L GUSTIN
Notary Public. State of New York
No 01GU6064116
Qualified in Chemiung County
Commission Expires September 17 20 State of New York)

On the 19 day of November 2003, before me personally came James A. West known to be the person described in and who executed the foregoing instrument, and acknowledged that they executed the same.

TERRI L GUSTIN
Notary Public. State of New York
No. 01GU6064116 Qualified in Chemiung County
Commission Expires September 17 20

Attorney Docket No.: SP03-162

(U.S.) Attorney Docket No.: SP03-162

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):

Karl W. Koch, III, et al

CERTIFICATE UNDER 37 C.F.R. § 3.73(b)

COMBINED

Serial No.:

and

Filed:

PO

For:

ACTIVE PHOTONIC BAND-GAP

FIBER

POWER OF ATTORNEY

Assistant Commissioner for Patents Washington, DC 20231

CERTIFICATE UNDER 37 C.F.R. § 3.73(b)

CORNING INCORPORATED, a New York corporation, certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of an assignment from the inventor(s) of the patent application identified above. A true copy of the unrecorded Assignment is attached hereto.

The undersigned has reviewed the above referenced assignment of the patent application identified above and, to the best of the undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned is empowered to sign this certificate on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.